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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/046,749	01/17/2002	Gang Huang	Huang 13-12-6	2534

46900   7590   05/11/2010
MENDELSOHN, DRUCKER, & ASSOCIATES, P.C.
1500 JOHN F. KENNEDY BLVD., SUITE 405
PHILADELPHIA, PA 19102

EXAMINER
NGO, NGUYEN HOANG

ART UNIT	PAPER NUMBER
2473	

MAIL DATE	DELIVERY MODE
05/11/2010	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

	Application No.	Applicant(s)
Office Action Summary	10/046,749	HUANG ET AL.
	Examiner	Art Unit	
	NGUYEN NGO	2473	

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on <u>23 April 2010</u>.

2a) ☐ This action is **FINAL**.   2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) <u>33-67 and 69</u> is/are pending in the application.

     4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) <u>1-35,37-45,48-51,53-61 and 64-67</u> is/are rejected.

7) ☒ Claim(s) <u>36,46,47,52,62,63 and 69</u> is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.

     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

     a) ☐ All   b) ☐ Some * c) ☐ None of:

       1. ☐ Certified copies of the priority documents have been received.

       2. ☐ Certified copies of the priority documents have been received in Application No. _____.

       3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

     * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

This communication is in response to the amendment of 4/23/2010. All changes

made to the Claims have been entered. Accordingly, Claims 33-67, 69 are currently

pending in the application.

Claim Rejections - 35 USC § 103

1.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed
> or described as set forth in section 102 of this title, if the differences between the
> subject matter sought to be patented and the prior art are such that the subject
> matter as a whole would have been obvious at the time the invention was made
> to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was
> made.

2.   The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148

USPQ 459 (1966), that are applied for establishing a background for determining

obviousness under 35 U.S.C. 103(a) are summarized as follows:

1.   Determining the scope and contents of the prior art.
2.   Ascertaining the differences between the prior art and the claims at issue.
3.   Resolving the level of ordinary skill in the pertinent art.
4.   Considering objective evidence present in the application indicating
        obviousness or nonobviousness.

3.   Claims 33, 35, 37, 38, 41, 42, 43, 44, 45, 48, 49, 51, 53, 54, 57, 58, 60, 61, 64,

67, 59, are rejected under 35 U.S.C. 103(a) as being unpatentable over Lindoff (US

6853681), in view of Lai et al. (US2002/0075947), in view of Monk (US 7499397) in

view of Trans (US 20050186933).

4.   **Regarding claim 33, 38, 43, 49, 54, 67, 59,** Lindoff discloses a network device

for a communication network (digital telecommunication receiver, abstract and figures 1

and 2), the network device comprising:

          (a) a database table (detection parameter table (col3 lines 30-40) adapted to

store one or more sets of one or more parameters, each set corresponding to a different

identifier (for each training sequence (identifier), there is one entry in the table that

represents a detection parameter set, col5 lines 60-col6 lines 4) for a corresponding

network device of the communication network (between transmitter and receiver, col5

lines 50-60); and

          (b) a receiver (Rx as seen in figures 1 and 2) adapted to:

               (1) receive a first data packet from the first transmitter (data reception of

messages, col6 lines 25-30), the first data packet comprising a header and a

payload (which is a concept well known in the art);

               (4) retrieve the first set of one or more parameters from the database

table based on the first identifier (upon determining the training sequence being

used, for configuring the receiver assembly. The detection parameter set, may be

selected from a table of detection parameter sets, col8 lines 22-35);

(5) process at least a portion of the first data packet based on the first set

of one or more parameters (processing of the received signal, col2 lines 49-53

and col9 lines 30-50);

Lindoff however fails to specifically disclose the specific details a first data packet

comprising a training sequence, and of receiving a first auxiliary coding which identifies

a first identifier and that the auxiliary coding and the first identifier is different from the

training sequence. Lindoff however discloses that receivers generally process a

received signal using a <u>training sequence</u> and that the training sequence is a pre

defined digital string which is sent along with the data transmissions (col1 lines 50-55).

In a similar field of endeavor, Lai discloses that each packet transmitted by each station

includes a preamble and includes data after the preamble (training preamble, page 1

[0005]). As discussed above, it is well known in the art that data packets incorporate a

header and payload so that communication may take place between nodes. Lai further

discloses;

the first auxiliary coding/first identifier is different from the training sequence

(preamble includes a training sequence to provide corrections (equalizers) represented

by the signals, page 2 [0015] and [0020] and figures 2 and 4). It is thus clear that

training preambles comprises training sequences as well as other control data thus the

training sequence is different from the training preamble.

It would have thus been obvious to a person skilled in the art to have the a first

identifier/auxiliary coding be different from the training sequence as disclosed by Lai, in

to the method of configuring a receiver with the selected parameter set to receive data

transmissions, as disclosed by Lindoff, so that other information may be sent inside a

training sequence, besides identifier/auxiliary coding, so that resources may be

efficiently used.

The combination of Lindoff and Lai further fails to specifically disclose the

concept of having a first auxiliary coding which identifies a first identifier. As stated

above, Lindoff discloses that receivers generally process a received signal using a

training sequence and that the training sequence is a pre defined digital string which is

sent along with the data transmissions (col1 lines 50-55). In a similar field of endeavor,

Monk discloses that training sequences are encoded (col9 lines 49-65 and col12 lines

29-35). Thus it should be obvious to a person skilled the art to have a training sequence

(first identifier) be encoded (thus correlating to auxiliary coding) as disclosed by Monk,

into the method of configuring a receiver with the selected parameter set to receive data

transmissions through training sequences, as disclosed by Lindoff and Lai, so that the

training sequence may be efficiently transferred from transmitter to receiver and that

resources may be efficiently used. It should further be obvious that the receiver

recovers (decodes) the training sequence (first identifier) from the encoded training

sequence (auxiliary coding) so that the receiver my properly determine the training

needed in selecting parameters.

The combination of Lindoff, Lai, and Monk fails to specifically disclose the specific limitation of having a second transmitter which generate second auxiliary coding/second identifier. Monk however discloses of transmitting a network ID so that a receiver may determine if the correct transmitting terminal is transmitting (col11 lines 20-33). In a similar field of endeavor, Trans discloses of a plurality of transmitters which sends a training sequence to a receiver, in which the receiver stores coefficients (parameters) into a internal table for the specific transmitter which is recognized by the transmitted ID (second data packet from a second transmitter, the second data packet comprising a training sequence, a header, and a payload and incorporating a second auxiliary coding, a second identifier, and a second set of one or more parameters, page 45 [0693] and page 46 [0701]-[0711]). It would have thus been obvious to a person skilled in the art at the time the invention was made to incorporate the system of having a receiver communicate with a plurality of transmitters (a second transmitter as well as a first transmitter) involving the use of transmission identification and different auxiliary coding and identifiers as disclosed by Trans into the method of training a radio receiver as disclosed by Lindoff, Lai, and Monk, in order to effectively train and synchronize a radio receiver to not just a single transmitter, but a plurality of transmitters.

Regarding claim 35, 51, Lai discloses wherein:

the first auxiliary coding and the first data packet's training sequence form the first and second portion, respectfully, of the first data packet (figure 2).

Regarding claim 37, 53, Lai discloses wherein the first auxiliary coding is received

before the first data packet is received (preamble is transmitted before the payload so

that system knows the type of modulation for the data, page 2 [0016] and figure 4).

Regarding claims 41, 42, 57, 58, the combination of Lindoff, Lai, Monk, and Trans fails

to specifically disclose wherein the first auxiliary coding comprises five or fewer

symbols/ five or fewer bits. However it would have been obvious to use 5 or fewer

symbols/bits to efficiently use bandwidth and resources of the channel and efficiently

use the given bits of the header/preamble field. It should further be noted that this is

simply a network parameter.

Regarding claim 44, 60, the combination of Lindoff, Lai, Monk, and, Trans, more

specifically Trans discloses that the first data packet header includes a source address

for the first transmitter (source address for a flow, page 55 [0862]) and the first identifier

is not the same as the source address for the first transmitter (training sequence being

transmitted in a training preamble whereas source address being transmitted in the

packet header which are modulated differently and thus correlating to first identifier is

not the same as the source address)..

Regarding claim 45, 61, Lindoff discloses wherein the first set of one or more

parameters comprises at least one of a receiving-equalizer start value, a timing-

recovery start value, an automatic-gain-controller start value, and an echo-canceller

start value (col5 lines 35-51).

Regarding claim 48, 64, Lindoff discloses wherein the database table is further

adapted to store the first identifier corresponding to each set of one or more parameters

(col5 lines 60-col6 line6).

5.   Claims 34, 50, are rejected under 35 U.S.C. 103(a) as being unpatentable over

Lindoff (US 6853681), in view of Lai et al. (US2002/0075947), in view of Monk (US

7499397), in view of Trans (US 20050186933), in view of Moore, JR. (US

2003/0039242).

Regarding claim 34, 50, the combination of Lindoff, Lai, Monk, Trans fails to

specifically disclose the system/network be a HomePNA network. Lindoff however

discloses of using such systems as GSM and EDGE systems. Moore further discloses

mobile handsets which incorporates the use of GSM and EDGE (page 2 [0020]) may

further incorporate networks such as HPNA networks (page 2 [0023]). It would have

thus been obvious to a person skilled in the art to incorporate the use of HPNA

networks as disclosed by Moore into the method and system of configuring a receiver

with the selected parameter set to receive data transmissions, as disclosed by Lindoff,

so that receivers may be configured in a plurality of networks and thus having a more

robust system.

6.   Claims 39, 40, 55, and 56 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Lindoff (US 6853681), in view of Lai et al. (US2002/0075947), in view

of Monk (US 7499397), in view of Trans (US 20050186933), in view of Goslin et al. (US

20020016949).

Regarding claim 39, 40, 55, 56 the combination of Lindoff, Lai, Monk, and Trans fails

to disclose of transmitting the auxiliary coding with a same/different front end as said

data packet. Lai however discloses from figure 3 of a transmitter and a receiver system

for transmission of data (RF from end for transmitting of data). Goslin further discloses

that a communication device incorporates front-end processing components for data

transmission (page 2 [0026]). It should thus be obvious to transmit the auxiliary coding

with the same/different RF front end as it is well known in the art that

transmitters/receivers incorporate RF front ends to transmit data which incorporates

training sequences and data packets. It should further be noted that transmitting of aux

coding through a specified RF front end is simply a systems parameter of the

transmission system and its components.

7.   Claims 65, 66 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Lindoff (US 6853681), in view of Lai et al. (US2002/0075947), in view of Monk (US

7499397), in view of Trans (US 20050186933), in view of DeMartin et al. (US 6421527).

    Regarding claims 65, 66, the combination of Lindoff, Lai, Monk, Trans fails to

specifically disclose the first set of one or more parameters is based on moving

averages, from past data packets received from the first transmitter. Lai however discloses of C/I and how to transmit a next packet (page 1 [0005] and page 3 [0028]). DeMartin further discloses of a system for dynamic adaptation of wireless communication between a mobile station and a base station (abstract) and further discloses that the receiver recognizes the header code and knows the codec mode to use for the frame and that the equalizer makes a decision as to whether a logic 1 or zero and passes the result to the channel decoder (col4 lines 30-41). DeMartin further discloses that a suitable moving average of the soft-values is a good estimator of the C/I ratio of the channel and that the absolute values of the soft bits for the current frame are averaged together and the resulting value is then fed to a moving average filter and that the filter averages over 40 frames. The output of the filter, called average value, is then used to estimate the current C/I value and consequently the most suitable mode to be used (concept of having values (values to determine suitable mode) based on a moving average (average value) of past frames received from said transmitting device, col4 lines 49-col5 lines 11). It would have thus been obvious to a person skilled in the art to incorporate the concept of having values be based on a moving average of past frames received from said transmitting device as disclosed by DeMartin into the method of training a radio receiver as disclosed by Lindoff, Lai, and Monk, and Trans in order to efficiently determine how to train a radio receiver.

Allowable Subject Matter

8.   Claims 36, 46, 47, 52, 62, 63, 69 are objected to as being dependent upon a

rejected base claim, but would be allowable if rewritten in independent form including all

of the limitations of the base claim and any intervening claims.

Conclusion

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to NGUYEN NGO whose telephone number is (571)272-

8398. The examiner can normally be reached on Monday-Friday 7am - 3:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Kwang Yao can be reached on (571)272-3182. The fax phone number for

the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

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USPTO Customer Service Representative or access to the automated information

system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/KWANG B. YAO/
Supervisory Patent Examiner, Art Unit 2473
        /N. N./
        Examiner, Art Unit 2473